Annual Report of the Civil Veterinary Department, Bengal, for the year 1894-95.

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ANNUAL REPORT OF THE BENGAL VETERINARY INSTITUTION FOR THE YEAR 1894-95.

No. $\frac{\text{V.D.}}{303}$, dated Dum-Dum, the 13th May 1895.

From—Veterinary Captain W. D. Gunn, Superintendent of the Civil Veterinary Department, Bengal,

To—The Director of Land Records and Agriculture, Bengal.

I have the honour to forward my annual report for the year 1894-95 herewith. It has been thought desirable to combine the report of the Bengal Veterinary Institution with that of the Civil Veterinary Department, simply leaving a space between them as a mark.

Statistics and other information will be found attached as appendices. The delay in submitting the report was due to my not being able to get a correct financial statement from the Accounts Department, but that now submitted has been verified in that office. I am awaiting a certified copy from the Accountant-General.

Bengal Veterinary Institution.

The Bengal Veterinary Institution has just completed its first year of existence, and when it is remembered that the hospital is in a somewhat remote part of Calcutta, and that it is an entirely new kind of institution with the benefits of which the people of Bengal are unacquainted, the year under review may be considered one of success. From the 1st April 1894 to the 31st March 1895, 285 horses and ponies, 312 head of cattle, 53 dogs, and 12 sheep and goats were treated for various complaints in the institution [*vide* Appendices (B to B4)]. For the first year the total of 662 patients may be considered fairly satisfactory, but there is yet much room for improvement. The institution is not yet sufficiently known to be appreciated, but this can only be a matter of time. There have been indications of improvement during the latter months of the year, and when the people have got over their natural distrust, I feel sure we shall have ample cattle practice. The Commissariat Department at Dum-Dum send all their sick cattle for treatment in this hospital; we therefore obtain a considerable number of cases from this source.

2. That the institution is steadily gaining in popularity may be estimated by the rise of nearly. 100 per cent. in the daily average of cases treated in the hospital. The average daily number of patients in last report was 16 (sixteen); that was for the period between the 10th January and 31st March 1894. The period included in this report is for the whole year 1894-95, in which the daily average was 31 (thirty-one). This number is assuring, and gives promise of an increasing average. There is still room, however, for more cattle practice. On the whole, for the first year, a total of 662 patients may be considered satisfactory.

3. Several improvements have been made in the grounds and buildings of the institution during the past year. The plot of ground previously occupied by a foul tank has been filled up and planted with guinea-grass, and now not only adds to the appearance of the grounds, but supplies nice, succulent, and nourishing diet to sick animals.

4. The whole of the grounds has been laid down with *dhoob* grass and planted with ornamental shrubs, and some of the roads widened to admit of cart traffic. Between the forge and stables a cool and commodious tiffin room for the students has been erected at a cost of Rs. 200 (two hundred rupees). This room will be of great convenience to the students, most of whom come daily from a considerable distance, and remain at the institution all day.

5. Pipes for the supply of good filtered water have now been laid on in the institution at a cost of Rs. 1,342 (one thousand three hundred and forty-two rupees), and will be a great boon to the animals in the hospital and to the attendants.

6. The crush erected at the beginning of the year at a cost of Rs. 40 has been a great boon to the students and the *nalbund*. By its aid restless and vicious animals are now handled with comparative safety, and it is especially useful when giving dangerous animals medicine.

Hospital.

7. The hospital practice has been varied and instructive to the students, who have shown much interest in the various cases. During the past year they have had special facilities for seeing cases of the more virulent contagious diseases, such as glanders, rinderpest, and foot-and-mouth disease, the two latter diseases having been prevalent in Calcutta and the neighbourhood. They have also had opportunities for seeing the continued and successful treatment of the new disease—suppurative lymphangitis—the whole 21 cases having been cured and sent to work.

With regard to rinderpest, several courses of treatment were tried with various results. It was found that sulpho-carbolate of soda gave the most satisfactory results. Before giving a decided opinion it would be necessary to have a much more extended trial of its action in this disease. As opportunity occurs this matter will be steadily kept in view and reported should its future application be as hopeful as at present.

8. It has been made a rule that all animals are examined, in order to detect if possible whether they are affected with any contagious disease, previous to admission into the institution grounds, and this precaution is very necessary. Animals so affected are taken into the isolated stalls, and there retained. In the case of glanders the animal is not admitted, but is sent to the nearest police station with a certificate to the effect that it is suffering from glanders and should be destroyed.

Operations.

9. The students have also had an exceptional advantage in being present at 169 operations, a detailed list of which will be found in Appendix (C). One very interesting operation was the amputation of a calf's hind leg. The poor creature had been injured by a cart, and had been left unattended for about three weeks. When admitted the distal extremity was gangrenous. Since the operation the calf has improved in condition, and now roves freely about the grounds.

During the dissection session all students are required to perform the more important operations on the dead subjects, such as division of the metacarpal nerve, setoning, firing, tracheotomy and trephining, and if possible castration. This is done to prepare them for operations on the living subject, which they will be required to perform during the second year's course. All classes of animals are operated upon, the total of 169 being made up as follows: 120 on horses and ponies, 42 on cattle, 6 on dogs, and 1 on a goat, so that it will be seen that the students see a very varied practice at this institution.

10. Hackney carriage owners are now beginning to recognize the usefulness of this hospital, and the admission of gharry ponies is daily increasing. In time we shall probably have a very large field of work among the gharry ponies, much to their benefit.

11. All operations are conducted on the most humane principles, every animal previously being put thoroughly under the influence of chloroform or other equally effective anæsthetic.

Admission of students.

12. Although 66 young men were selected out of a very large number of applicants, only 35 attended the lectures, which commenced on the 23rd February 1894. As there only remained about a month of the session, it was considered desirable to consider this as only a preliminary course. Students were divided into groups of 6, and informed that during the vacation, extending from the 1st April to the 23rd June, they would be required to attend the practical instructions and clinical work between the hours of 8 and 10 o'clock every morning—each group to have one week's duty at a time. This system was adopted in order that they should still keep up their practical knowledge without interfering very much with their holidays, and I am pleased to have to record that they accepted these duties quite willingly.

13. The real session commenced on the 23rd June 1894, and since that date 16 new students were admitted and 23 had left [*vide* Appendix (D)], leaving 28 students now regularly attending.

14. Two stipend-holders from the District Boards of Chittagong and Patna respectively were so irregular in their attendance, and consequently so backward in their examinations, that they were reported to their District Boards, resulting in their stipends being withheld. They in consequence left the institution towards the end of October. Satish Chunder Sanyal, although awarded a Government stipend, left on the 25th June without warning.

15. I regret to report that one student—Moti Lal Mitter—was expelled for dishonesty. I am pleased to have to report that during the past year the students have worked well and willingly, as has been proved by examinations held in November 1894, and the first professional examinations in March 1895 [*vide* Appendices (E) and (F)].

16. From the number of applications for admission already received, it is anticipated that the number of students will exceed 50, viz. 24 second session and 30 first session students.

Stipends.

17. As was anticipated, the bestowal of stipends caused some difficulty in the first instance, and it was decided that after a short period of study there should be a redistribution according to their professional acquirements. For this purpose an examination was held on 23rd and 24th November 1894 in all subjects taught up to that date. The result proved that the students had been very attentive, 13 of whom had obtained more than two-thirds and all more than half of the total number of marks.

18. The first 15 on the list were adjudged stipends, and at a meeting of the Committee of Management of the Bengal Veterinary Institution held on 4th December 1894, it was decided that the readjustment should take effect from 1st December 1894.

19. The Darjeeling Municipality has sent two intelligent young men for instruction, and has made them sign an agreement to the effect that the students are to diligently pursue their studies at the Bengal Veterinary Institution until they pass their final examination, after which they are bound to practise in Darjeeling and the neighbourhood in consideration of the allowance of Rs. 10 (ten rupees) a month voted them for maintenance while studying in the Veterinary Institution. It would be well if other Municipalities and District Boards followed this enlightened example.

20. Stipends have been promised to students from the following sources :—

1 from Darbhanga Raj.
1 „ Mymensingh District Board.
1 „ Chittagong ditto.
2 „ Darjeeling Municipality.
2 „ Burdwan Raj.
2 „ Balasore District Board.
1 „ Patna ditto.
1 „ Hooghly ditto.

21. At a meeting of the Committee of Management held on the 4th December 1894, it was decided to award the Sheo Bux Bogla Scholarship to Surendro Nath Bose, who had been originally nominated, and who at the examination held in November 1894 had obtained the first place, to hold it with effect from the 1st November 1894.

22. The Committee had found some difficulty in awarding the scholarship founded by Dr. Kenneth McLeod, as originally certain conditions were laid down which had been found to be inapplicable. At first the idea was that the course of study should extend to three years; ultimately, however, it was decided that at present two years would suffice. It was therefore resolved that the award of the scholarship be deferred until the donor was addressed with regard to the conditions on which the scholarship should be awarded. The Committee proposed to Dr. McLeod—

(1) That as the course of study was limited to two years, the scholarships should not be given for three, and recommended that it be given annually.
(2) That the Committee have power to take away for good cause as well as to award.
(3) That a definition of the examination to be held in deciding the claims of applicants should be given.

23. Dr. McLeod in answer said that he was willing to agree to any modifications in the conditions governing its tenure which may render it more useful. He thought it would be more encouraging if it were made tenable for two or three years, according to the duration of the course of study; or if awarded annually, the holder had *prior claim* to second or third tenure, conditional on diligence and good behaviour.

Lectures.

24. Lectures on anatomy, physiology, materia medica, pharmacy, handling of animals, and clinical instruction were given daily, and by consulting the Appendices (G), (H), and (I), where a syllabus of each will be found, it will be seen that the students have had a good grounding in the subjects taught. Since the opening of the institution there has been some slight alteration in the teaching staff. It was found that Babu Hara Dhan Dutt, although well up in his subject, had not the power of practically conveying his instructions to veterinary students. I therefore applied for, and was able to secure the services of, Mr. F. Fernandes, a graduate of the Bombay Veterinary College, who has since proved an able instructor. I am also glad to be able to report favourably on the careful manner in which Mr. B. S. Shroff has imparted his instructions.

25. As a number of new students joined the institution after the opening, and as the lectures delivered during February and March 1894 were of a preliminary nature, it was considered advisable to again go over lectures for the benefit of these recently joined students. It may therefore be considered that the course actually commenced from 23rd June 1894.

26. During the period devoted to dissection we have been particularly fortunate in having a sufficiency of subjects presented to us. The students were therefore enabled to pursue their studies without the usual disagreeable accompaniments of a dissecting room.

27. They were throughout the dissection course very attentive, which has been proved by the result of the examination in practical anatomy, and the credit of this is due to Mr. Burke, the Lecturer on Anatomy, who spent nearly five hours daily in the dissecting room.

Examinations.

28. Examinations are held weekly and monthly, in order to test the progress of the students and to explain to the students any points which they may have failed to grasp. With the exception of a few, they seem to have followed the lectures intelligently.

29. The first yearly examination was held on 20th to 24th March 1895, and was conducted by a Committee of three officers of the Army Veterinary Department,* and there is reason for congratulation in the manner in which the students passed their first year's examination. Out of 26 competitors, 20 were successful. Two of those who failed obtained more marks in the aggregate total than was required for a pass, but unfortunately failed to get 33 per cent. in each of two subjects.

* *President:*
Veterinary Captain Pease.

Members :
Veterinary Lieutenant J. Moore.
Veterinary Lieutenant A. E. Clarke.

30. Two students, who were well up in their subjects, unfortunately were unable to attend the examinations, owing to their having been ill with small-pox. With His Honour the Lieutenant-Governor's permission, they might be allowed to go up for a special examination to be held in June before the new session commences, and I would also recommend that the two students who obtained more than the aggregate total of marks required for a pass, but who failed to reach the 33 per cent. in two subjects, be permitted to come up for re-examination in the subjects in which they failed.

31. Many specimens have been added to the museum, and a skeleton of the horse has been prepared, and will shortly be set up. In course of time it is hoped that similar preparations of all domesticated animals will be collected. This will facilitate instruction in comparative anatomy.

Museum.

32. Twelve large anatomical and twelve smaller pathological coloured drawings have also been prepared and added to the museum.

33. Cattle-disease has been somewhat more prevalent during the year 1894-95 than was reported for the previous year [*vide* Appendix (K)]. This may be due to the fact that more prominence has been given to the subject of cattle-disease than was formerly the case. Recently orders have been reissued to District Officers, requesting them to report outbreaks of cattle-disease direct to the Superintendent, Civil Veterinary Department, and in consequence attention has been at once drawn to the locality. In such instances as the outbreak of disease at Rampur Boalia, Jessore, Darjeeling, Berhampore, &c., a veterinary assistant, supplied with the necessary medicines, was sent off by the first train available, and no doubt these prompt measures prevented a serious spread of the disorder.

Cattle-disease.

34. Satisfactory progress cannot be made until a subordinate veterinary establishment has been organized. All information regarding diseases in the various districts is very confusing, and can only be cautiously relied upon. It will be therefore understood that only when properly trained veterinary assistants are distributed among the districts can any reasonable amount of useful information be collected. Under these circumstances it has been found impossible to fill up the form prescribed by the Inspector-General, Civil Veterinary Department, in circular letter No. 1892M., dated 3rd October 1894.

35. Chittagong, Balasore, Jalpaiguri, Murshidabad, Mymensingh, and the 24-Parganas seem to have suffered most from epidemics.

36. Rinderpest would seem to have been the most destructive, although foot-and mouth disease was the most widely distributed. The latter affection caused considerable uneasiness in Darjeeling, where the disease principally attacked the dairy cattle.

37. In Chittagong rinderpest was extremely destructive, and must have caused great distress to the people. It spread over 51 villages, and caused losses varying from 2 or 3 to 30, and in 1 village (Charia) near Hathazari 94 animals were attacked, out of which only 6 recovered. The people believe that when the rain commences the disease ceases. They describe the disease as *raktoghalla*. One thousand six hundred and six cases of disease were reported, out of which 1,549 succumbed. This, however, was the only really bad epidemic which has been reported.

38. At Jalpaiguri it was rumoured that many tea gardens had lost the whole of their cattle, but no authentic information was received. From what could be gathered, and as the result of much enquiry, it would seem that rinderpest was endemic in the Duars, and from the nature of the country it would be a hopeless task to thoroughly eradicate the disease. It is to be hoped that shortly a suitable vaccine may be discovered which will render *housed* cattle immune. Medicinal treatment, even under the most favourable conditions, as experienced in the hospital of the Bengal Veterinary Institution, fails to save more than half the number of infected animals.

39. Segregation of the healthy animals from the sick will be found the surest means of prevention, and to emphasize this it is proposed to draw up a small pamphlet containing directions for the proper isolation of cattle and disinfection of the ground where they have been herded.

40. The Presidency, Central, and Rampur Boalia Jails were particularly unfortunate in having their young stock attacked with rinderpest, but owing to prompt attention the disease did not spread very extensively.

41. The Calcutta and Chitpur gowalas suffered many losses from rinderpest, and considering the overcrowded state of their sheds and the general filthiness of the interiors, it is not to be wondered at that the disease should cling to the locality and cause such loss in animal life.

42. A few deaths were reported from Netrokona in the Mymensingh district, but from the description it would not appear to have been of an epidemic form.

43. At Berhampore, Murshidabad, many cattle died. At first it was considered that the disease was due to the anthrax bacillus, but a close examination of the specimens kindly sent by Mr. Nitya Gopal Mookerjee of the Agricultural Department proved the bacilli to be different to those of anthrax. I went to Berhampore to personally investigate the disease, and came to the conclusion that it was the familiar one of rinderpest.

44. During the year under report foot-and-mouth-disease has been very prevalent, particularly in Darjeeling, Balasore, 24-Parganas, and the Chittagong Hill Tracts. A short description of the disease, with hints as to treatment, was given to the Deputy Commissioner, Darjeeling, who had it printed in the vernacular and circulated. By this means the spread of the disease was curbed, and in the short space of five weeks the epidemic had disappeared. The circular issued will be found in Appendix (K).

45. Anthrax and the charbon symptomatique are comparatively rare diseases in Bengal, and I have only seen one case of the latter, which was admitted into the Bengal Veterinary Institution Hospital and belonged to the Transport Department.

46. Pleuro-pneumonia, in the contagious form, may be said to be non-existent—at least no case has come to my knowledge; so that of the five contagious diseases, three only, viz. rinderpest, anthrax, and charbon symptomatique, need claim our serious attention. Foot-and-mouth disease is, comparatively speaking, a benign affection, which mainly causes inconvenience, and if treated properly readily passes away.

47. It would be scarcely worth while to inoculate large herds of cattle with anthrax vaccine until it had been ascertained beyond all reasonable doubt that the anthrax bacillus caused death to large numbers of animals within a certain localized area. So far, however, cases of the disease have been extremely isolated, therefore the necessity for general inoculation for this disease is not at all indicated.

48. With rinderpest, however, the matter is different. The disease annually carries off large numbers of animals, and few attacked ever recover, though as a matter of fact they are left to die without any care or attempt at treatment. Many experts are now working up the subject, and it is anticipated that before long we may have a reliable preventative. Veterinary assistants will then be of considerable service in the districts.

Glanders.

49. Act No. XX of 1879 would seem only to apply to Calcutta and the Suburbs, and no doubt works well, but this is much too limited an area. This disease is not only extremely infectious to animals, but is likewise a grave source of danger to mankind. It would therefore seem that so dangerous a disease should be put down by every possible means.

50. At the Sonepur fair, at the commencement of the gathering, a very virulent case was found among the horses, but owing to the Act not being in operation, the animal was removed and ordered to be taken home, instead of being destroyed and buried to prevent further contagion.

51. At Berhampore mela, Shahabad, two cases were discovered with similar results. These affected animals now form a moving *contagium*, and are liable to affect hundreds of others. It is through this want of care that the disease is so frequently met with. It is admitted that until there are experts in the districts of Bengal, there will be no ready means of deciding whether the disease is or is not glanders, and thus much difficulty will be experienced in enforcing the Act; but it is expected that there will be several veterinary assistants soon available from the Bengal Veterinary Institution, and it is hoped that their services will be entertained.

52. There are now four graduates of the Lahore Veterinary College employed in Bengal and three other enquiries have been received, so that it is estimated that the services of the passed students from the local school will be readily sought when available.

The following is the list of graduates from Lahore :—

Goolam Khadir	...	Employed in the Bengal Veterinary Institution.	
Gundah Singh	...	Ditto	Pinjrapole, Sodepore.
Sher Muhammad	...	Ditto	Darjeeling (District) Municipality.
Golam Hayder	...	Ditto	Calcutta Tramway Company.

Supply of bulls.

53. With a view to improving the stock of the country, the District Board of Mymensingh and the Court of Ward's estate, Serail, in Tippera, have imported two bulls from Burma. Dinajpur also indented for eight bulls and four cows from Burma, but after months of waiting, difficulty was found in procuring them and the money was returned.

54. Two very nice Patna bulls were procured for the Jessore Jail and the Hooghly Municipality respectively at moderate prices, viz. Rs. 85 for Jessore and Rs. 150 for Hooghly. A Nellore bull was procured for the Bettiah Raj for Rs. 150, plus expenses from Madras. This was a handsome animal, but seemed a little too leggy for breeding with the Bihar cattle.

55. Considerable difficulty is experienced in obtaining bulls of the required stamp because few people keep them. Very nearly all bulls are Brahmini and devoted to some deity, and are allowed to roam at will, very often considerably to the annoyance of the public. I would suggest that some of these animals be transferred from one district to another where their services would be appreciated. In this way many good bulls could be obtained from Bihar, which would admirably suit the requirements of Chittagong and Lower Bengal.

56. Another suggestion which might be considered would be to establish a small depôt where good young bulls could be reared, and at 4 years old distributed to suitable localities. As a commencement some might be bought and reared in the Veterinary Institution. The experiment would entail very little extra cost, and the young bull calves might be obtained from the jails.

57. If such a scheme was also organized in Burma and other provinces, there might be either an interchange of stock, or they could be purchased. This would save much trouble in obtaining bulls from other provinces.

58. There would probably be no difficulty in finding responsible persons who would look after the bulls when available. Two bulls might be kept at the Bengal Veterinary Institution for service to cows in the neighbourhood, and thus no doubt would be a means of bringing the institution to the notice of cattle owners, and in this way have its good works published.

59. During my tours through several districts opportunity was taken to observe the size and quality of the cattle, and several photographs were taken of what were considered good examples of the various breeds. Unfortunately several of the negatives were either spoilt or broken, which circumstance will slightly delay the description of the various breeds of cattle in Bengal which I proposed to bring out shortly.

Cattle breeding.

60. From various examples which have been brought to my notice, there can be no doubt that English breeds certainly exercise a prepotence over the Indian cattle—a notable instance being the now distinct breed of Patna cattle. A few years before the Mutiny, Mr. Taylor, then Commissioner of that Division, imported a Kerry bull. Unfortunately it died shortly afterwards, but left four calves to perpetuate the breed. From these it may be reckoned that some twelve generations of animals have been born since that time.

61. An inspection of the photographs which I have taken of the two bulls bought for Jessore and Hooghly will readily show what a very strong resemblance there is to the progenitor, and it is well known that the cows of the Patna breed, though small, are much valued for their milking qualities, and command a good price. Mr. B. C. Basu of the Agricultural Department of Bengal some time ago brought to my notice an article on the "Influence of Dexter Cattle on other Breeds," published in the *Journal of the Agricultural Society of England*, September 1894, in which, by photographs, the same case of prepotence is clearly proved. It seems to be immaterial whether the cross is by British sire or through a similarly bred cow,—the result appears the same. The drooping quarter, heavy shoulder, lean neck and head, gives place to a powerful square body, straight back, short, stout neck, and good head. Mr. Malden in this article says: "The breed used to improve the other must not only be superior in appearance, but must be prepotent, so that it shall endow the inferior with its good points." He then draws attention to one particular breed of small cattle possessing many of these good characteristics, which should recommend it to those interested in the development of native breeds, particularly those of Bengal.

62. The breed alluded is the Dexter Kerry. A cow of this breed was crossed with an Indian Zebu bull, which resulted in the produce of a heifer, the description of which is deeply interesting: "This cross-bred heifer shows how very prepotent the Dexter is over the Zebu, for at first glance it appears to be almost a perfect Dexter. The hump has disappeared, and the line from the shoulders to the setting of the tail is perfectly straight, thus at once doing away with the inferior characteristics in the Zebu. It would be difficult to realize a greater transformation in the hind quarter, which has been developed in the first cross."

63. Taking these points into consideration, and having the result of Mr. Taylor's experiment before us, I think it would certainly be a move in the right direction if two bulls and two cows were imported in order to extend the experiment. It is believed that one of the horse-shippers intends bringing a few Queensland bulls as a trial; it might also be worth while for Government to purchase one or two of these, and either hand them over to the Presidency Jail or let them stand in the Bengal Veterinary Institution.

64. In time I would propose that such central jails as at Bhagalpur, Midnapore, and the Presidency should be asked to keep distinct breeds of cattle, so that the young bull calves could be reared and ultimately distributed to various parts of the country. A fair price could be realized, and would defray the cost of their keep until such time as they were ready for service.

65. The supply of mules is still far short of the demand, as may be gathered from the high prices asked for the better class of mules, and the fact that large numbers have to be imported from abroad for army and transport purposes, and now that Persia as a market for the purchase of mules for transport purposes by the Government of India has been closed, it has been thought advisable to encourage this industry within our own borders as much as possible. The previously attempted mule breeding experiment in Bengal, however, was not successful on account of the extreme prejudice of the people to mating ponies with donkeys. In Sikkim, however, there is not such a drawback to contend against. Mr. White, the Political Officer, therefore applied for the services of an Imperial donkey stallion, and under his fostering care it is hoped that the experiment will prove a success. The donkey arrived in Gantok at the beginning of July 1894, and since that date 18 mares have been covered [*vide* Appendices (L) and (M)]. The donkey is a fine animal of the Persian breed, extremely docile, and since its arrival in Sikkim has much improved in physique.

Mule breeding.

66. The experiment must of necessity be at first tedious, as before sending their mares to be covered the people will want to see the results of the first coverings, and what prices they are likely to realize as 3 and 4-year olds. From the size of the sire and the shape and make of the dams, the price should be high—probably between Rs. 300 (three hundred rupees) and Rs. 400 (four hundred rupees).

67. The people are well acquainted with the advantages of mule breeding through the large purchases now yearly made by Government at Kalimpong, but they do not care to put their mares to the donkey until they know that high prices may be obtained, because at present Bhootia ponies realize more money than do the small mules recently purchased for the Transport Department. Since February 1895 the cost of keeping the donkey "Teheran" has been decreased by Rs. 5-8 (five rupees eight annas) a month, and now amounts to Rs. 23-11 (twenty-three rupees eleven annas) a month. It might be suggested that even this sum could be lessened by giving the syce a little extra pay and doing away with the grass-

cutter. This is the usual arrangement with attendants on donkey stallions stationed in the North-West Provinces and the Punjab.

Pony breeding.

68. It has been suggested that pony stallions should be located in each of the districts of Arrah, Saran, and Champaran, to be purchased and maintained by the District Boards and placed in charge of some responsible private person. This arrangement of having district stallions would no doubt vastly improve the class of ponies at present to be seen in this part of the country. At present there are obstacles in the way of purchase and keep of the animals, although the breeders recognize the value of having good sires in the neighbourhood.

Fairs and shows.

69. There are several large cattle fairs held in Bengal, at which many ponies, elephants, and other animals are brought for sale. I was only able to attend Sonepur, Berhampore (Arrah) in 1894-95, and Kalimpong, which were considered the most important.

Sonepur Fair.

70. *Sonepur Fair.*—The report on this fair has been already submitted with this office letter No. 27 $\frac{V.D.}{95}$, dated 8th January 1895. The number of animals present could only be calculated approximately, but should my suggestion of levying a fee on all animals admitted in the fair be carried out, useful statistics might be framed. There has been correspondence regarding this matter, but considerable difficulty seems to arise about carrying the plan out.

71. In order to show what was being done at a somewhat similar fair at Amritsar, I obtained from the Secretary of that Municipality the following information:—

(*a*) That fees are levied at the cattle fair by means of tickets, for which the fee is 2 annas.

(*b*) Animals are allowed to enter free, but are only permitted to leave the enclosure on production at the exit gate of a ticket purchased at the ticket office in the fair.

(*c*) Only a portion of the cattle fair ground is the property of the municipality, *i.e.* the main street, the prize cattle stand, the square covered by the judging ring, and the offices.

(*d*) The tethering ground is private property, but the owners willingly allow cattle to occupy it for ten days twice a year in return for a small rent (Rs. 60 per fair) and the manurial advantages to the land.

(*e*) The horse fair is held on Government ground, for which no rent is paid. The fees are here levied on sales at the rate of 1 per cent.

72. Having ascertained that fees were levied at the Berhampore fairs in the Shahabad district, I placed myself in communication with the Subdivisional Officer, Buxar, who kindly sent me an explanation of the system which was there adopted. The land on which the fairs are held belongs to zamindars, and the collection of fees of the fair is made under the management of the Subdivisional Officer. After deducting the cost of lighting, watching, and for sanitary purposes, the balance is paid to them as remuneration for the occupation of the land.

73. There is no reason why a similar system such as obtains at the Berhampore mela, Arrah, should not be carried out at Sonepur, and the maliks remunerated in the same way. As now happens, the large majority of cattle are constantly migrating from place to place, and consequently do not pay any fees. Moreover the inconvenience to purchasers is very considerable, as the roads are invariably obstructed and impassable.

74. An innovation of this kind must take time to work out the details, but it is hoped that before very long a start may be made to adopt a similar system to that which is now worked at the Berhampore mela.

75. As there had been some difficulty experienced in getting owners to bring their horses for competition for prizes the previous year, a meeting of the members of the Horse Show Committee was held on the 11th November 1894, at which it was decided to recommend that the Rs. 900 (nine hundred rupees) usually given in prizes for horses be discontinued. The difficulty experienced in the previous year in collecting competitors was only the more emphasized this year, and confirmed the members of the Judging Committee in their opinion that to award prizes to unwilling exhibitors was waste of money.

76. Had the industry of horse or pony breeding been carried on in the district, it might have been urged that the annual distribution of money prizes was an extra inducement to breed improved animals, but such is not the case.

77. It may, however, be urged that as the districts of Bihar are good enough for the rearing of animals, they should be good enough for breeding. It has been proved, fairly conclusively I think, that large animals cannot be bred in Bengal, but smaller animals have been bred and reared, which have proved to be really good animals. It would therefore be well worth the experiment if Government or the District Boards in Chapra, Arrah, and Muzaffarpur bought a really good Arab or Waler cob sire for each of these districts, and allowed his services to owners of mares free of cost, the stallion to be placed in charge of some European interested in the matter. Ponies and Galloways are always valuable, and readily sold for remunerative prices.

78. At present the mares are sired by the nearest *tatto*, which is almost invariably radically unsound and unshapely, with the result that a number of wretched equine specimens are distributed throughout the country, occupying the attention and consuming the food that should have been reserved for better animals. The old saying that "*a bad horse eats as much as a good horse*" is very true, and equally applies to stock breeding.

79. It was proposed at the meeting of the members of the Horse Show Committee already mentioned that the sum of Rs. 250 be diverted to prizes for cattle at the next Sonepur fair. This would certainly be worthy of experiment, as Bihar is a large cattle breeding district, and it might stimulate the friendly rivalry of the different districts in producing the best cattle.

80. The following suggestions might be of service in making up a list of prizes to be awarded at the cattle fair, amounting to Rs. 250 (two hundred and fifty rupees) :—

		1st prize.	2nd prize.	3rd prize.
		Rs.	Rs.	Rs.
(1)	For the best bull (Bachuri breed) ...	15	10	...
(2)	Ditto bull (any breed)	15	10	...
(3)	Ditto single bullock	8	4	2
(4)	Ditto pair of bullocks	10	6	4
(5)	Ditto cow (Patna breed) ...	10	5	2
(6)	Ditto cow (any breed)	10	5	2
(7)	Ditto cow with calf	10	5	2
(8)	Ditto bull buffalo (Bihari) ...	15	10	...
(9)	Ditto ditto (any breed) ...	15	10	...
(10)	Ditto pair of cart or plough buffaloes	10	6	...
(11)	Ditto cow buffalo (Bihari) ...	10	5	2
(12)	Ditto ditto (any breed) ...	10	5	2
(13)	Ditto ditto with calf (Bihari)	10	5	...

81. Strong enclosures should be portioned off to contain each class, and care should be taken to divide the competing animals into their proper classes.

82. It is not to be expected that the first show will be a success, because it will be difficult to make the owners understand what is required of them, but in the course of time there can be no doubt but that considerable benefit will be derived from these shows.

83. It is to be regretted that the Glanders and Farcy Act is not in force in the mufassal of Bengal, as the one case detected at this fair could not be destroyed. It was sent away, and the owner ordered to take the animal back to his house. This has probably been the cause of many others becoming affected and disseminating the disease.

Kalimpong Fair.

84. The Kalimpong fair was held on the 27th and 28th November 1894, and was very much larger than that held the year before.

85. Last year it will be remembered that 100 mules were purchased by the Transport Department, and it was anticipated that in consequence of this large purchase the number of animals brought for sale would be considerably greater. This anticipation has proved correct, as the number brought in for sale was about 250. The Artillery bought 9 mules at an average of Rs. 260, and the Transport Department 162 at an average price of Rs. 133. More animals would have been bought by the Transport Officer had they been of sufficient height, the minimum being 12 hands 2 inches.

86. The number of mules purchased may be considered a very satisfactory argument in favour of encouraging this mela, the Committee of which have done so much to developing this trade.

87. In course of time it may be considered of sufficient importance to appoint an officer of the Transport Department to visit Kalimpong periodically in order to purchase suitable animals as they come in from Thibet. As Persia is now closed to the India Government as a purchasing ground, the subject of where to get mules has become an important question. It will therefore be seen that every reasonable inducement should be held out to Thibetan traders to bring in mules of good stamp. Moreover the trade in wool will of necessity expand in ratio with the supply of mules. The Thibetan or China mules are exceedingly hardy beasts with large frames, and when they are fed up become fine-looking animals. The Inspector-General, Civil Veterinary Department, made the following remarks when he inspected the mules bought at the mela in November 1893:—

"The Kalimpong mela, if properly nursed, promises to be one of the best mule markets in India. I have inspected the mules purchased in that neighbourhood, and consider them to be of excellent quality. I am therefore of opinion that every encouragement should be given to the Kalimpong fair."

88. For the purpose of encouraging this trade the Inspector-General of the Civil Veterinary Department made a grant of Rs. 150 to be distributed in prizes for mules. This sum has now been increased to Rs. 500 to be given in prizes for the best mules shown during the fair held in November 1895.

89. With such encouragement there is every reason to anticipate a large show of mules at next year's mela.

90. The show of Bhootia ponies was fairly good, though it was expected that there would be more competitors than the 31 animals which faced the judges. As the show is yet in its infancy, it was not to be expected that the increase of animal competitors would be great. Nevertheless it was a decided improvement on the show last year, both in quality and numbers.

91. It would be advisable to encourage the Bhootias to bring in young animals, particularly stallions, as these animals would make an excellent cross with the Burman pony

and give that power and stamina which the present breed of Burman lacks. The system of crossing indifferent Burman mares with equally indifferent Arab sires is much to be regretted, and which will certainly result in the decay of that once famous sturdy breed of ponies. Therefore if reasonable inducement could be held out to breeders to bring in young good stallions of the Bhootia breed, no doubt many orders for them could be obtained from Burma.

92. Cattle and sheep were but poorly represented. This is probably due to the shock the cultivators received two years ago, when the majority of their cattle died from rinderpest. Nevertheless there were more animals of these classes present than last year, and it may be fairly anticipated that there will be a greater collection next year.

93. On the whole the fair may be considered to have been a success, and there is every reasonable hope that Kalimpong will become one of the big mule markets of India.

94. Since the Military Department has commenced buying mules a considerable impetus has been given to trade between Thibet and India, particularly in wool; and since the last November mela the Transport Department has obtained over 70 more mules, making a total of 240 purchased this year. When it is considered that two years previously only 10 were obtainable, it will be seen that the increase has been very satisfactory; and if the purchase-money is paid in cash to the individual owners at the time of purchase, and not by cheque, the trade will become popular. Government will then have a new mule market within the borders of India, where a large annual supply may be had for a reasonable price.

Berhampore Fairs.

95. The Berhampore fairs, Shahabad district, were held on 28th April to 9th May 1894 and 22nd and 26th February 1895, both of which I attended.

96. By the evening of the 30th April about 600 head of cattle assembled, but horses and ponies, which mostly come from the North-West Provinces and the Punjab, came about a week before the date, and took up their station in a *tope* of mango-trees reserved for that class. On the 1st May 3,100 cattle were present, and from this date until the 4th the number steadily increased, until the total reached 19,763. This number was ascertained by the number of admission tickets paid for at the gates. The number of horses and ponies over 12 hands was 826, and under that height 1,009. Among the cattle were many fine animals suitable for draught purposes in the Transport Department; but the majority were small, and were principally purchased for country cart work in Lower Bengal.

97. The horses and ponies were of a wretched description, and with one or two exceptions only suitable for gharry and ekka work.

98. In this district there must be a large number of mares which are allowed to be covered by any worthless stallion in the neighbourhood, with the result that the progeny are really not worth rearing. A vast improvement might be made in this direction by having really good stallions of a sturdy description. It has been proved by years of experiment that large, well-formed horses cannot be bred here, but there is no reason why a smaller class of animals could not be bred profitably. But so long as the mares are allowed to be served by worthless country *tats*, all hope of improving the breed is *hopeless*.

99. The District Boards might be approached on this subject, and should it be decided to obtain a stallion, the animal might be placed in charge of some responsible person, and during certain months sent round the district. Care should be taken in the first instance that the animal be of the proper stamp and suitable for the class of ponies of the district. No fee should be charged, and there should be no branding of mares which were covered. In this way much could be done to improve the breed of animals exhibited at the fair, and thereby induce the large Calcutta buyers to purchase here.

100. The arrangements at the fair were very good, and might be imitated at other large fairs in Bengal with benefit and profit. Mr. Oldham, C.S., the Subdivisional Officer who organized this mela, kindly supplied me with the following details:—

"The space in which the cattle were enclosed consisted of an irregular quadrangle, 600 yards long, but about 400 yards broad, which used to be fenced round with bamboo railings. Since the fair held in February 1894 an innovation was made in having barbed wire as a preventive and increased security from rushes by day and cattle-lifting by night. The surplus money realized from the preceding fair enabled the authority to further extend this system, with the sanction of the maliks, by the purchase of 200 stone pillars and wire fencing. Double strands of plain wire were now stretched the whole way round, as Mr. Marindin, the District Magistrate, very rightly objected to the barbed wire.

101. The effect of the wire fencing was that no rush or attempt of rushing was made during the fair, nor was there any attempt at cattle-lifting by night.

102. The following charges were made for admission:—

			Annas.
For every head of cattle	...	...	1
Ditto horse or pony over 12 hands	...	...	2
Ditto pony under 12 hands	...	...	1

This charge may be considered sufficiently moderate, and is no great tax on the owners, who secure water and protection for the small sum; and the zamindars thereby receive a fair compensation for the rent of their land and possible destruction of property.

103. The charge for calves I think might be altered; in fact, I consider that it would popularize the cattle fair if they were allowed into the enclosure free. The sale price of calves is very small, and an anna may be considered a somewhat excessive tax.

104. The fair held in February 1895 was very similar to that held previously, and, if anything, seemed to increase in popularity. An innovation in the right direction was made in having, in conjunction with it, an agricultural show, at which prizes were given for cattle.

105. The people, however, could not understand what was required, and considerable difficulty was experienced in getting cattle owners to bring their animals to be judged.

105. Next year will probably bring a decided improvement in this direction, and it is estimated that the owners will eagerly bring forward their best cattle for competition. The pony class was well represented in point of numbers, but of wretched quality, and I consider that no commensurate advantage is to be gained by giving prizes to other than mares or mares with foals. The horses and ponies taken as a whole were ill-shaped, unsound, and weedy, and certainly not worth prize money. However, by giving mares and mares with foals prizes, particularly if covered by the district stallion, an inducement might be given to the improvement of breeding ponies in the district.

Tours.

106. Although my tours were of short duration, in consequence of duties in the Bengal Veterinary Institution, I went into the districts frequently when instances of severe cases of disease were reported [*vide* Appendix (N)]. The following districts were visited: 24-Parganas, Shahabad, Bhagalpur, Patna, Darbhanga, Darjeeling, Jalpaiguri, Jessore, Midnapore, Purnea, Dinajpur, Saran, and Berhampore. I was from head-quarters 153 days, and travelled—

			Miles.
By rail	...	...	10,981
„ road	...	...	596
„ boat	...	...	154
			11,721

Dispensaries.

107. At present there are no veterinary dispensaries in Bengal, but it has been recommended that, as a start, one should be organized in each of the districts of Bhagalpur and Muzaffarpur.

108. Estimates and plans of the buildings, also of the fittings, drugs, pay of veterinary assistants, &c., have been submitted with this office Nos. $\frac{V.\ D.}{873}$ and $\frac{V.\ D.}{886}$, dated 16th and 23rd August respectively, and it is anticipated that before long the dispensaries will be in working order.

109. The municipality of Darjeeling has certainly been the most progressive in veterinary matters, and now employs a Lahore graduate as veterinary assistant. It has also sent two students on a monthly stipend of Rs. 10 each to the Bengal Veterinary Institution for instruction.

Pinjrapoles.

110. The management of pinjrapoles at Sodepur and Raniganj have made still further improvements. The grounds are railed off into small enclosures, where animals on first admission are isolated. After a period—usually about ten days—has elapsed, and it has been found that the animals are free from contagious disease, they are draughted to the larger enclosure, where the main herd of healthy cattle are kept. All the large spaces of ground, which were formerly thick with manure, and during the wet weather were of a consistency of black, evil-smelling sludge, have now been converted into healthy guinea-grass plots,—a most refreshing sight. This fresh, succulent grass has been so prolific that it is hoped that it will shortly entirely take the place of straw, and thus constitute a more easily digestible food for old animals, and be a saving to the Committee of Management.

The deaths are now comparatively few, considering that animals are not usually sent to this institution until they are utterly worthless to the owners.

Society for the Prevention of Cruelty to Animals.

111. In my annual report for 1893-94 I suggested that animals belonging to owners who were convicted for cruelty might be sent to the Bengal Veterinary Institution for treatment, but so far no case has come to this hospital. Act No. XI of 1890, section 6, subparagraphs 2, 3, and 4, seems to very clearly state that the convicting Magistrate has the power to send animals requiring surgical aid to an infirmary. The annexed copies of letters will show that the Society for the Prevention of Cruelty to Animals seem anxious that the Bengal Veterinary Institution should be utilized.

112. The sum allotted in the sanctioned budget was Rs. 22,000, of which Rs. 15,766-1-5 have been expended [*vide* Appendix (O)] thus showing a rough saving of Rs. 6,834, in addition to Rs. 1,342 expended in laying on water-pipe connection with the main pipe which passes in front of the institution.

113. Rupees 2,481-6-6 (the amount of fees received) have been paid into the Bank of Bengal. This amount exceeds the cost of feeding animals by Rs. 807.

Financial statement.

114. Only Rs. 850 for stipends has been paid, although Rs. 1,275 was sanctioned, and this is to be explained in this wise. It was found advisable only to bestow 15 stipends the first year, as at the opening of the institution there would be only one class. In the following years there would be two classes, so that the 30 scholarships presented by Government would be divided and given to 15 students in each class.

115. The large saving under the head of feeding was due partly to strict economy and partly owing to an insufficiency of patients.

116. There was also a slight saving under the heading of establishment, due to non-entertainment of the full establishment sanctioned.

117. Out of the contingent allowance a tiffin room for the students has been built.

W. D. GUNN, VETERINARY CAPTAIN,

Superintendent, Civil Veterinary Department, Bengal.

APPENDIX A.

Copy of letter dated 5th September 1894 *from* G. W. LEES, ESQ., *Secretary to the Society for the Prevention of Cruelty towards Animals, to the Superintendent of the Civil Veterinary Department, Bengal.*

"I ENCLOSE copy of letter addressed to the Chief Presidency Magistrate, drawing attention to the Bengal Veterinary Institution and the facilities afforded there for treating animals.

"Our only compunction in recommending cases to be sent to your establishment is that, owing to the great distance from Calcutta, we should in a measure be aiding and abetting cruelty to animals in making, for example, a badly lamed or maimed animal walk all that distance out.

"We are, however, in the meantime willing to do all in our ability to help in having cases committed for treatment, but an authoritative hint from the Lieutenant-Governor to the Presidency Magistrates would have much more effect in inducing successful results.

"Under Act XI of 1890 it will be necessary for the Local Government to appoint the institution as an infirmary for the purposes of the Act."

Copy of letter dated 5th September 1894 *from* G. W. LEES, ESQ., *Secretary to the Society for the Prevention of Cruelty towards Animals, to the Chief Presidency Magistrate, Calcutta.*

"MAY I draw your attention to the existence of an establishment called the Bengal Veterinary Institution, situated at Belgatchia on the Dum-Dum road, and the facilities it affords for receiving and treating wounded and sick animals. The institution is under Government control and management, with an efficient Veterinary Surgeon as Principal and a capable staff. The college possesses every convenience for the comfortable accommodation and treatment of all classes of dumb animals, and I enclose a copy of the rules and scale of charges for your information.

"Our Society has felt all along that punishing a delinquent with a fine for working a galled, lame, or otherwise unfit animal does not protect the unfortunate creature from being used: detection might be escaped; and that this is done is proved by the not uncommon experience of our agents, who have arrested more than once drivers and owners for using the same animal.

"Of course, punishing a poor carter, for example, with a fine, and hospital charges to face after, might appear a very great hardship. In cases of gross cruelty no sympathy could be expressed with the offender, but in ordinary cases, where the carter is really very poor, the Bengal Veterinary Institution is prepared, and is doing so now, to treat the animals gratis with a view to popularize the institution and draw in the much needed subjects for the students' instructions."

APPENDIX B.

Statement showing the Number of Animals treated in the Bengal Veterinary Institution during the year 1894-95.

Class of Animals.	In-patients.				Out-patients.				Grand Total.	Remarks.
	Admitted.	Discharged.	Remaining.	Total.	Brought for treatment.	Discharged.	Remaining under treatment.	Total.		
1	2	3	4	5	6	7	8	9	10	11
Horses and mules ...	*201	185	16	201	84	81	3	84	285	*23 remaining from last year.
Cattle	†129	123	6	129	183	180	3	183	312	† 9 ditto ditto.
Dogs	...	...	...	...	‡53	‡51	2	53	53	‡ 1 ditto ditto.
Sheep and goats ...	...	...	...	...	12	11	1	12	12	
Total ...	330	308	22	330	332	323	9	332	662	

APPENDIX B1.

Statement showing the Number of Horse Patients treated in the Bengal Veterinary Institution during the year 1894-95.

Diseases.	In-patients.						Out-patients.						Grand Total.	Remarks.
	Admitted.	Cured.	Relieved.	Died.	Remaining.	Total.	Brought for treatment.	Cured.	Relieved.	Died.	Remaining.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Abscess	2	1	...	...	1	2	1	1	...	...	...	1	3	
Amaurosis	1	...	1	...	...	1	...	...	...	...	...	...	1	
Bilious fever	5	5	...	...	...	5	...	...	...	...	...	...	5	
Bronchitis	1	1	...	...	...	1	3	3	...	...	...	3	4	
Bursati	6	5	...		1	6	1	1	...	...	..	1	7	* 2 remaining from last year.
Canker	†6	3	1	...	2	6	...	...	...	...	...	...	6	† 1 ditto ditto.
Castration	7	6	...	...	1	7	...		...	...	...	...	7	
Catarrh	5	5	...	...	...	5	11	11	...	...	...	11	16	
Catarrhal fever	2	1	...	...	1	2	...	...	...	...	...	...	2	
Contusion	11	11	...	...	...	11	5	5	...	...	...	5	16	
Congestion of the liver	7	7	..	...	...	7	4	4	...	...	...	4	11	
Corns	3	3	.	...	...	3	...	..	...	...	...	...	3	
Colic	1	1	...	...	...	1	...	...	...	...	...	...	1	
Coronitis	2	2	...	...	...	2	1	1	...	...	...	1	2	‡ 1 ditto ditto.
Cheber	...	...	..	...	...	...	1	1	...	...	...	1	1	
Choking	..	...	...	...	...	...	1	1	...	...	...	1	1	
Cystic tumour	§1	1	...	...	...	1	...	...	...	...	...	...	1	§ Remaining from last year.
Diarrhœa	2	2	...	...	...	2	...	...	...	...	...	...	2	
Debility	4	4	...	...	...	4	3	3	...	...	...	3	7	
Eczema	..	...	...	...	...	...	5	4	1	...	...	5	5	
Epithelioma	1	1	...	...	...	1	...	...	...	...	..	...	1	
Epistaxis	1	1	..	...	...	1	...	...	...	...	...	...	1	
Exostosis, metacarpal	3	..	2	...	1	3	...	..	...	...	...	...	3	
Do., phalangeal	9	1	7	...	1	9	2	.	2	...	...	2	11	
Do., tarsal	7	4	2	...	1	7	5	2	3	...	...	5	12	
Febricula	4	4	...	...	...	4	8	8	...	...	...	8	12	
Fracture	1	1	.	...	...	1	1	1	...	...	...	1	2	
Fibroma	3	3	...	...	...	3	3	1	...	...	2	3	6	
Fistula	1	1	...	...	...	1	...	...	...	...	...	...	1	
Filaria oculi	5	5	...	...	...	5	1	1	...	...	...	1	6	
Glanders	...	...	...	...	...	...	‖1	...	...	1	...	1	1	‖ Handed over to the police for destruction.
Hæmaturia	1	1	...	...	...	1	...	...	...	...	...	...	1	
Indigestion	3	3	...	...	...	3	3	3	...	...	...	3	6	
Irregular teeth	...	...	...	...	...	...	1	1	..	...	...	1	1	
Internal parasites	.	...	...	...	...	...	1	1	...	...	...	1	1	
Lymphangitis	¶20	18	...	2	...	20	...	...	...	...	...	...	20	¶ 14 remaining from last year.
Laminitis	**7	5	1	1	...	7	...	...	...	...	...	...	7	** 1 ditto ditto.
Mammitis	1	1	...	...	...	1	...	...	...	...	...	...	1	
Œdema	1	1	...	...	...	1	...	...	...	...	...	...	1	
Ophthalmia	1	1	...	..	...	1	1	1	...	...	...	1	1	
Open joints	2	2	...	...	..	2	1	1	...	...	...	1	3	
Paraplegia	3	...	2	...	1	3	...	...	...	...	...	...	3	
Pneumonia	1	1	...	..	...	1	...	...	...	...	...	...	1	
Pyæmia	1	...	...	1	...	1	...	...	...	...	...	...	1	
Rheumatism	1	...	...	...	1	1	...	...	...	...	...	...	1	
Sprain	29	17	9	...	3	29	8	5	3	...	...	8	37	
Scirrhous cord	1	1	...	...	...	1	...	..	...	...	...	...	1	
Synovitis	††2	1	1	...	...	2	2	1	...	...	1	2	4	†† 1 ditto ditto.
Sesamoiditis	1	1	...	...	...	1	...	...	...	...	...	...	1	
Strangles	7	6	...	1	...	7	2	2	...	...	...	2	9	
Thrush	4	4	...	...	...	4	1	1	...	...	...	1	5	
Tympanitis	...	...	...	...	...	...	1	1	...	...	...	1	1	
Ulceration of cornea	1	1	...	...	...	1	...	...	...	...	...	...	1	
Urticaria	1	1	...	...	...	1	...	...	...	...	...	...	1	
Variola equina	1	...	...	1	...	1	...	...	...	...	...	...	1	
Wound	‡‡11	9	...	...	2	11	6	6	...	...	...	6	17	‡‡ 1 ditto ditto.
Total ...	201	153	26	6	16	201	84	71	9	1	3	84	285	

APPENDIX B2.

Statement showing the Number of Cattle Patients treated in the Bengal Veterinary Institution during the year 1894-95.

Diseases.	In-patients.						Out-patients.						Grand Total.	Remarks.
	Admitted.	Cured.	Relieved	Died.	Remaining.	Total.	Brought for treatment.	Cured.	Relieved.	Died.	Remaining.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Abscess	*4	4	...	...	...	4	6	6	...	...	...	6	10	
Acute hepatitis	2	...	...	2	...	2	...	...	...	...	...	...	2	
Anthrax	1	...	...	1	...	1	...	...	...	...	...	...	1	
Bronchitis	1	1	...	...	...	1	3	2	...	...	1	3	4	
Charbon symptomatique	1	...	...	1	...	1	...	...	...	...	...	...	1	
Contusion	2	2	...	...	...	2	2	2	...	...	...	2	4	
Coronitis	2	1	1	...	...	2	...	...	...	...	...	...	2	
Debility	11	5	3	1	2	11	...	...	...	...	...	...	11	
Dystokia	1	1	...	...	...	1	1	1	...	...	...	1	2	
Diarrhœa	1	1	...	...	...	1	2	2	...	...	...	2	3	
Echinococcosis	1	...	...	1	...	1	...	...	...	...	...	...	1	
Eczema contagiosa	6	6	...	...	...	6	6	6	...	...	...	6	12	
Fibroma	13	12	..	...	1	13	*14	13	..	...	1	14	27	
Fracture	3	1	...	2	...	3	3	2	1	...	...	3	6	
Febricula	6	6	...	...	...	6	12	11	...	1	...	12	18	
Gonorrhœa	1	1	...	...	...	1	...	...	...	..	...	...	1	
Influenza	2	2	...	...	...	2	...	...	...	...	...	...	2	
Indigestion	2	2	...	...	...	2	19	19	...	...	...	19	21	
Impaction	3	1	...	2	...	3	...	...	...	...	...	...	3	
Imperforate anus	1	...	1	...	...	1	...	...	...	...	...	...	1	
Otorrhœa	2	2	...	...	...	2	1	1	...	...	...	1	3	
Œdema	3	3	...	...	...	3	1	1	...	...	...	1	4	
Pneumonia	3	1	...	2	...	3	1	1	...	...	...	1	4	
Prolapsus ani	2	1	...	1	...	2	...	...	...	...	...	...	2	
Periostitis	1	1	...	...	...	1	1	1	...	...	...	1	2	
Poisoning	1	1	...	...	...	1	...	...	...	...	...	...	1	
Pyæmia	1	...	...	...	1	1	...	...	...	...	...	...	1	
Retention of urine	1	...	...	1	...	1	...	...	...	...	...	...	1	
Sprain	6	6	...	...	...	6	21	17	3	...	1	21	27	
Sinus	2	2	...	...	...	2	1	...	1	...	...	1	3	
Tinea favosa	1	1	...	...	...	1	*4	4	...	...	...	4	5	
Tuberculosis	1	...	...	1	...	1	...	...	...	...	...	...	1	
Ulcer	1	1	...	...	...	1	13	13	...	...	...	13	14	
Wound	8	8	...	...	...	8	16	16	...	...	...	16	24	
Yoke gall	7	6	...	...	1	7	30	27	3	...	...	30	37	
Ophthalmia	...	...	...	...	...	...	*4	4	...	...	...	4	4	
Catarrh	...	...	...	...	...	...	2	2	...	...	...	2	2	
Tympanitis	...	...	...	...	...	...	5	5	...	...	...	5	5	
Mammitis	...	...	...	...	...	...	2	2	...	...	...	2	2	
Tetanus	...	...	...	...	...	...	1	...	...	1	...	1	1	
Constipation	...	...	...	...	...	...	4	4	...	...	...	4	4	
Necrosed horn	...	...	...	...	...	...	1	1	...	...	...	1	1	
Conjunctivitis	...	...	...	...	...	...	2	2	...	...	...	2	2	
Rinderpest	25	11	...	13	1	25	2	2	...	...	...	2	27	
Dysentery	...	...	...	...	...	...	2	2	...	...	...	2	2	
Leucorrhœa	...	...	...	...	...	...	1	1	...	...	...	1	1	
Total	129	90	5	28	6	129	183	170	8	2	3	183	312†	

* 1 remaining from last year.

† 34 out of the 312 were Government bullocks (Commissariat Department).

APPENDIX B3.

Statement showing the Number of Dog Patients treated in the Bengal Veterinary Institution during the year 1894-95.

Diseases.	Admitted.	Cured.	Relieved.	Died.	Remaining.	Total.	Remarks.
1	2	3	4	5	6	7	8
Abscess	1	1	...	...	...	1	
Ascites	1	...	1	...	...	1	
Bronchitis	2	1	1	...	...	2	
Contusion	1	1	...	...	...	1	
Conjunctivitis	1	1	...	...	...	1	
Distemper	10	7	...	3	...	10	
Dysentery	3	2	...	...	1	3	
Fever, simple	2	2	...	...	...	2	
Fibroma	1	...	...	1	...	1	
Fracture	3	3	...	...	...	3	
Mange	*11	11	...	...	...	11	* 1 remaining from last year.
Opthalmia	1	1	...	...	...	1	
Canker of ear	1	1	...	...	...	1	
Œdema	3	2	...	...	1	3	
Pneumonia	2	2	...	...	...	2	
Post-partum hæmorrhage	1	1	...	...	...	1	
Sprain	2	2	...	...	...	2	
Tinea favosa	1	1	...	...	...	1	
Ulceration of cornea	1	1	...	...	...	1	
Wound	4	4	...	...	...	4	
Total ...	52	44	2	4	2	52	

APPENDIX B4.

Statement showing the Number of Sheep and Goats treated in the Bengal Veterinary Institution during 1894-95.

Diseases.	Admitted.	Cured.	Relieved.	Died.	Remaining.	Total.	Remarks.
1	2	3	4	5	6	7	8
Indigestion	4	4	...	...	...	4	
Ophthalmia, simple	2	1	...	...	1	2	
Peunmonia	1	1	...	...	...	1	
Rinderpest	1	1	...	...	...	1	
Specific ophthalmia	1	...	1	...	...	1	
Tympanitis	1	1	...	...	...	1	
Villitis	2	2	...	...	...	2	
Total ...	12	10	1	...	1	12	

APPENDIX C.

Statement showing the Operations performed in the Bengal Veterinary Institution during the year 1894-95.

Operations.	Number of Operations performed on—				Total.	Remarks.
	Horses and ponies.	Cattle.	Dogs.	Sheep and goats.		
1	2	3	4	5	6	7
Amputation of horn	...	1	...	...	1	Average daily under treatment 31.
Ditto uterus	...	...	...	1	1	
Ditto limb	...	2	...	...	2	
Ditto tail	2	...	...	...	2	
Cauterizing bursati sores	5	...	...	...	5	
Ditto cankerous frogs	10	...	...	...	10	
Ditto lymphangitic buds	18	1	...	...	19	
Castration	16	...	...	...	16	
Extracting diseased teeth	1	...	3	...	4	
Firing spavins	3	...	...	...	3	
Do. sprained tendons	4	...	...	...	4	
Do. ringbones	6	...	...	...	6	
Neurotomy	9	...	...	...	9	
Opening abscess	5	11	...	...	16	
Do. fistula and sinuses	2	2	...	...	4	
Paracentesis abdominis	...	2	...	...	2	
Phlebotomy	2	...	...	...	2	
Periostiotomy	1	...	...	...	1	
Removal of fibroma	7	23	1	...	31	
Ditto scirrhous cords	1	...	...	...	1	
Ditto filaria oculi	7	...	...	...	7	
Ditto epithelioma	1	...	1	...	2	
Suturing wound	2	...	...	...	2	
Setoning	11	...	1	...	12	
Smith's operation for laminitis	4	...	...	...	4	
Tapping synovial distensions	2	...	...	...	2	
Tenotomy	1	...	...	...	1	
Total	120	42	6	1	169	

APPENDIX D.

Students admitted after 23*rd June* 1894.

(1.) J. N. Gupto.
(2.) S. K. Mitra.
(3.) B. B. Mondol.
(4.) H. C. Chatterjee.
(5.) B. P. Das.
(6.) L. M. Sircar.
(7.) P. K. Moitra.
(8.) K. C. Das.
(9.) Khobiral Hosain.
(10.) Abdul Roshid.
(11.) N. C. Haldar.
(12.) K. Masihalalum.
(13.) J. N. Pal.
(14.) S. N. Roy Chowdhury.
(15.) C. C. Ghosal.
(16.) L. M. Ghose.

Students left School since the beginning of the Session.

(1.) Hira Lal, of Patna District Board.
(2.) Abdul Roshid, of Chittagong District Board.
(3). Satish Chunder Sanyal.
(4.) Matilal Mitter.
(5.) L. D. Mittra.
(6.) B. B. Neogui.
(7.) Motilal Mitter.
(8.) H. K. Bose.
(9.) S. Rudra.
(10.) S. N. Dey.
(11.) C. B. Mookerjee.
(12.) P. K. Moitra.
(13.) K. P. Mullick.
(14.) Z. A. Zalim.
(15.) S. P. Singh.
(16.) A. D. Biswas.
(17.) R. C. Sircar.
(18.) B. B. Dey.
(19.) S. N. Roy Chowdhury.
(20.) C. C. Ghosal.
(21.) L. M. Ghose.
(22.) P. K. Bose.
(23.) P. K. Moitra.

APPENDIX E.

Result of the Stipendiary Examination held from 1st to 6th November 1894.

Number.	Name.	Anatomy.	Physiology.	Materia medica.	Exterior of the horse.	Handling of animals.	Attendance.	Total marks.	Remarks.
1	2	3	4	5	6	7	8	9	10
	Maximum marks ...	*100*	*100*	*100*	*75*	*90*	*78*		
1	Surendro Nath Bose ...	76	90	80	52	78	62	438	Sheo Bux Bogla Scholarship holder.
2	Jotindro Nath Dutt ...	66	83	78	43	73	75	418	Government stipend-holder.
3	Ram Lal Bhattacharya ...	50	86	82	49	68	77	412	Ditto.
4	Surendro Krishna Mittra ...	59	87	81	37	80	63	407	Ditto.
5	Nundo Lal Gupto ...	67	73	81	46	65	72	404	Ditto.
6	Nogendro Nath Sen ...	66	82	79	41	61	74	403	Ditto.
7	Sarat Chunder Pal ...	74	66	69	42	79	70	400	Ditto.
8	Herbert A. Stuart ...	58	60	75	53	87	63	396	Ditto.
9	Lolit Mohun Sircar ...	74	73	80	27	76	62	392	Ditto.
10	Bipro Podo Das ...	70	93	65	31	42	71	375	Ditto.
11	Upendro Nath Mittra ...	55	66	71	40	72	69	373	Ditto.
12	Bemul Krishna Bannerjee ...	56	75	70	35	66	68	370	Ditto.
13	Horry Das Bannerjee ...	56	69	66	26	76	74	367	Ditto.
14	Satya Churn Mookerjee ...	52	55	76	34	75	56	348	Ditto.
15	Hori Podo Das ...	62	66	67	29	54	68	346	Ditto.
16	Bepin Behari Mondol ...	58	56	58	34	75	64	345	
17	Bonkim Behari Chunder ...	49	52	83	42	63	52	341	
18	Benode Behari Dutt ...	67	58	62	41	64	49	341	
19	Krishna Nath Dutt ...	64	38	76	35	63	62	338	
20	K. L. Chatterjee ...	53	49	78	36	66	48	330	
21	Surendro Nath Mittra ...	39	48	74	39	71	56	327	
22	Protul Krishna Bose ...	56	64	66	33	62	35	316	
23	Monmohun Mittra ...	40	38	65	39	74	57	313	
24	Hori Churn Chatterjee ...	50	58	61	21	50	63	303	

APPENDIX F.

Bengal Veterinary Institution, March Examination 1895.

Number.	Names.	Pharmacy.	Physiology.	Anatomy.	Materia Medica.	Handling animals.	Practical anatomy.	Total.	Remarks.
1	2	3	4	5	6	7	8	9	10
	Maximum marks ...	*100*	*100*	*100*	*100*	*100*	*100*	*600*	Pass mark = ½ in each subject and 45 % in total.
1	Surendro Krishna Mittra ...	90	40	91	66	96	96	479	
2	Bepro Podo Das ...	60	57	59	70	93	78	417	
3	Ram Lal Bhattacharjee ...	80	42	39	73	86	84	404	
4	Upendro Nath Mittra ...	45	42	80	46	90	97	400	
5	Nondo Lal Gupto ...	40	57	66	52	92	92	399	
6	Bepin Behari Mondal ...	60	49	57	66	83	83	398	
7	Jotindro Nath Dutt ...	70	34	66	54	87	73	384	
8	Surendro Nath Bose ...	50	39	52	58	96	88	383	
9	Bemul Krishna Bannerjee ...	40	48	46	54	79	95	362	
10	Hori Podo Das ...	44	36	45	74	77	73	349	
11	Benode Behari Dutt ...	66	34	45	38	92	72	347	
12	Satyendro Nath Mitter ...	35	80	36	42	80	67	340	
13	Satya Churn Mookerjee ...	50	34	49	38	82	85	338	
14	Nogendro Nath Sur ...	44	38	46	58	84	67	337	
15	Sarat Chunder Pal ...	55	48	34	52	86	59	334	
16	Jotindro Nath Gupto ...	44	38	60	54	64	66	326	
17	Bonkim Behari Chunder ...	50	35	58	40	86	52	321	
18	Herbert A. Stuart ...	35	37	34	37	96	62	301	
19	Khobirul Hossein ...	44	37	49	34	62	69	295	
20	Hori Churn Chatterjee ...	40	41	44	37	66	42	270	
21	Lolit Mohun Sircar ...	20	22	49	51	77	76	295	Rejected.
22	Hori Das Bannerjee ...	35	23	17	48	77	94	291	Ditto.
23	Kartic Chunder Das ...	44	9	34	40	71	56	254	Ditto.
24	Kazi Masihalalum ...	34	4	23	42	71	38	212	Ditto.
25	Nogen Chunder Haldar ...	10	15	39	66	6	39	175	Ditto.
26	Jotindro Nath Pal ...	10	2	17	26	90	28	173	Ditto.

H. T. Pease, *Veterinary Captain* ... *President.*
J. Moore, *Veterinary Lieutenant*, A.V.D.,
A. E. Clerk, *Veterinary Lieutenant*, A.V.D., } *Members.*

APPENDIX G.

Syllabus of Anatomy taught during 1894-95.

I.—Introduction.

(1) Anatomy and its divisions, with nature and methods of the study.

II.—Osteology.

(2) The general anatomy of bones.
(3) The skeleton as a whole.
(4) The skull in general.
(5) Occipital and wormian bones.
(6) Parietal and sphenoid bones.
(7) Frontal and ethmoid bones.
(8) Temporal bones—squamous and petrous.
(9) Nasal, lachrymal, and turbinated bones.
(10) Malar, superior maxillary and premaxillary bones.
(11) Pterygoid, palatine, and vomer bones.
(12) The inferior maxilla, and the hyoid bone.
(13) The cranium and the temporal fossæ.
(14) The orbits, nasal fossæ, and the air sinuses of the skull.
(15) The foramina of the skull.
(16) The vertebral column.
(17) Cervical vertebræ.
(18) Special characters of certain cervical vertibræ.
(19) Dorsal and lumbar vertebræ.
(20) Sacrum and coccygeal vertebræ.
(21) The ribs and sternum.
(22) General study of the thorax.
(23) The limbs as a whole.
(24) Scapula.
(25) Humerus.
(26) Radius and ulna.
(27) Carpus.
(28) Metacarpus.
(29) Pastern bones and sesamoids.
(30) Pedal and navicular bones.
(31) The ossa innominata.
(32) Femur.
(33) Tibia, fibula, and patella.
(34) Tarsus.
(35) Differences between fore and hind limb bones.
(36) Ditto skull and trunk bones of the horse and those of the ox.
(37) Ditto limb bones of the horse and those of the ox.

III.—Arthrology.

(38) The tissues which enter into the formation of joints.
(39) The classes and varieties of joints.
(40) Articulations of the skull—sutures, tempora-maxillary and hyoid joints.
(41) Special vertebral joints.
(42) Common vertebral joints.
(43) Thoracic joints.
(44) Shoulder and elbow joints.
(45) The carpus.
(46) Metacarpal and fetlock joints.
(47) Pastern and coffin joints.
(48) Pelvic joints.
(49) Hip joint.
(50) Stifle joint.
(51) The tarsus.
(52) Differences between the joints of the horse and those of the ox.

IV.—Myology.

(53) The general anatomy of muscles.
(54) The histology of muscles (including the heart).
(55) The panniculus carnosus.
(56—60) Muscles of the head.
(61—63) Ditto cervical region.
(64—66) Ditto costal region.

(67-68) Muscles of the pectoral region.
(69) Ditto dorso-lumbar region.
(70-71) Ditto abdominal region.
(72-73) Ditto sub-lumbar region and the diaphragm.
(74) Ditto coccygeal region.
(75—79) Ditto fore limb.
(80—87) Ditto hind limb.
(88) Differences between the muscles of the horse and those of the ox.

E. BURKE,

Asst. Supdt. and Lecturer on Anatomy.

APPENDIX H.

BENGAL VETERINARY INSTITUTION.

Syllabus of Physiology taught in Class A for the Professional year ended 31*st March* 1895.

1. Introduction—
   Physiology defined: its relation to other allied branches of natural science.
   Matter. Molecules. Atoms.
   Difference between plants and animals.
2. The blood—
   Physical characters of the blood.
   Chemical composition of the blood. Plasma. Red corpuscles. Hæmoglobin. White corpuscles. Blood plate.
   Coagulation of the blood.
   The extractives of the blood.
   The difference between arterial and venous blood.
   The salts of blood.
   The quantity of blood.
   The gases of blood.
   Organisms in blood.
   Uses of the blood.
3. The circulation of the blood. The heart—
   The pericardium.
   The chambers of the heart.
   Structure of the heart.
   Course of the blood through the heart. Pulmonary and systemic circulation.
   The valves of the heart and their function.
   The action of the heart. Cardiac revolution.
   The cardiac sounds.
   The impulse of the heart.
   Intra-cardiac pressure.
   Physical examination of the heart.
   Nervous mechanism of the heart.
4. The circulation of the blood. The blood-vessels—
   Structure of the arteries, capillaries, and veins. Difference between artery and vein.
   The velocity of the blood.
   Blood-pressure and tension.
   The pulse.
   The arterial circulation.
   The capillary circulation. Diapedesis.
   The venous circulation.
   Influence of the nervous system on blood-vessels.
   Forces concerned in circulation.
   Peculiarities of circulation in different parts.
   Transfusion of blood.
5. The vascular glands—
   The functions of the spleen. Thymus and thyroid glands, supra-renal capsules, and pineal and pituitary bodies.
   Functions of the vascular glands in general.
6. Respiration—
   The object of respiration.
   Mechanism of respiration.
   Inspiration and expiration.
   Number of respirations.
   Movements of the nostrils and glottis.

Quantity of air respired.
Circulation of blood in respiratory organs.
Respiratory changes in the air and blood.
Nervous mechanism of respiration.
Effect of respiration on circulation.
Apnœa. Dyspnœa. Asphyxia.

7. Digestion—
The object of digestion.
Classification of foods.
Pretension of food.
Mastication.
Insalivation. The saliva and its uses.
Deglutition.
Gastric digestion in the horse. The gastric juice and its functions.
Vomiting.
Rumination.
Nervous mechanism of the stomach.
Digestion in the small intestines.
Functions of the pancreas and its secretion.
Structure and functions of the liver.
Functions of the succus entericus.
Digestion in the large intestines.
Functions of the Cæcum, double colon, and single colon.
The fæces, Meconium.
Defœcation.
Nervous mechanism of the intestional canal.

8. Absorption—
The lymph: its formation and uses.
Properties of lymph and chyle.
Absorption by the lacteals, lymphatic, vessels and blood-vessels.
Absorption from the respiratory passages, cellular tissue, conjunctiba, skin, pleural and peritonœal cavities, and intestines.
Absorption of fats, sugar, and proteids.

9. The skin—.
Structure and functions of the skin.
Growth of hair.
Sweat.
Respiratory function of the skin.

10. The kidneys and urine—
Structure of the kidney, ureter, and urinary bladder.
Functions of the kidneys.
The urine: its composition.
The secretion of urine.
Micturition.

11. Nutrition—
The income and expenditure of the animal body.
Nitrogenous equilibrium.
Digestibility of food.

12. Animal heat—
Sources of heat.
Loss and production of heat.
Regulation of the body temperature.

13. The muscular system—
Physiology of muscle at rest and in activity. Structure and functions of voluntary and involuntary muscles.
Sources of muscular action.

14. The nervous system—
The chief divisions of the nervous system. The cerebro-spinal and the sympathetic.
Elementary structure of the nervous system. The nerve-cells and the nerve-fibres.
Peripheral nerve terminations.
Classification of nerve-fibres. The sensory or centripetal and the motor or centrifugal.
Functions of nerve-fibres.
Structure and functions of nerve centres.
Reflex action.
Structure and arrangement of the spinal cord and its nerves.
Functions of the spinal cord and its nerves.
Structure and functions of the medulla oblongata.

Functions of the pons varolii, crura cerebri, corpora quadrigemina, optic thalam and corpora striata.
Functions of the cerebellum.
Structure and functions of the cerebrum.
Cerebral circulation.
Physiology of the cranial nerves.
Functions of the sympathetic nervous system.

15. The senses—
Common and special sensations.
The sense of sight. The structure of the eyeball. Optical apparatus. Movements of the eye. The ophathalmoscope. Physiology of the
The sense of smell, taste, hearing, and touch.

16. The foot—
Structure and growth of the horn.
Functions of the frog, sole, wall, lateral, cartilages, and the lamminæ.
Anti-concussion apparatus.
Elastic movement of the foot.

BENGAL VETERINARY INSTITUTION.

Syllabus of the "Exterior of the Horse" taught in Class A for the Professional year ended 31st March 1895.

1. Introduction—
Exterior of the horse, its object.
Centre of gravity.
The lever and muscular mechanism.
The inclined plane.
2. Sides of the horse, off and near. Beauties. Defects. Blemishes. Vices.
3. The names of different external regions of the body, and the methods of handling them.
4. Beauties, defects, blemishes, and principal diseases affecting the following external regions, viz. the head, the neck, the body and the limbs, fore and hind.
Treating the minor regions wherever necessary.

BENGAL VETERINARY INSTITUTION,
1st *April* 1895.

BEZONJI S. SIROFF, G.B.V.C.,
Lecturer, Bengal Veterinary Institution.

APPENDIX I.

Syllabus of Materia Medica taught during the Scholastic year 1894-95 *in the Class A.*

1. Materia medica defined. Sources of drugs.
2. Mineral, vegetable, and animal medicines explained and exhibited.
3. Division of materia medica into pharmacy, pharmacology, and therapeutics defined and explained.
4. Action of medicines—
(*a*) Local.
(*b*) General.
(*c*) Physiological, therapeutical, and toxic effects of medicines.
(*d*) How the general action of medicines obtained, process of their absorption, and how medicines enter into the circulation.
(*e*) Endosmosis and exosmosis.
(*f*) Especial affinity of different drugs to different organs.
(*g*) How the action of medicines modified, and under what circumstances.
(*h*) How the medicines are passed out of the system, and their effects on the organs of elimination.
(*i*) The action of medicines upon the influence of climate and temperature, as well as upon the development of different organs of different species of domesticated animals.
(*j*) How habit, idiosyncrasies, and surroundings of the patients modify the action of medicines.
5. Weights and measures: their uses and symbols.
6. Reading and writing prescriptions.
7. General guidance and table of doses of medicines for different domesticated animals.

8. Different modes of administration of medicines to domesticated animals—

(*a*) Balls: their preparation and administration.
(*b*) Drenches, draughts or drinks: their preparation and administration.
(*c*) Injection, enemeta.
(*d*) Hypodermic injection.
(*e*) Endermic method of administration of medicines.
(*f*) Inhalation.
(*g*) Intra-venous and intra-trachel administration of medicines.
(*h*) Administration of medicines through skin by absorption.

9. Definition of the terms of action of medicines as adhesives, alteratives, &c., &c., with examples of each.

10. Description of the drugs under the following heads—1. Names, Latin and English. 2. Synonims. 3. Characters. 4. Action and Uses. 5. Doses. 6. Modes of Application. 7. Incompatibles. 8. Antidotes. 9. Preparations.

11. Ammonium, sodium, potassium, calcium, and magnesium compounds.
12. Iron, copper, zinc, lead, silver and mercury compounds.
13. Vegetable bitters, vegetable astringents, and vegetable carminatives.
14. Mineral and vegetable acids and their preparations.
15. Alcohol and ethers, chloral and chloroform.
16. Oils and soaps.
17. Starch, sugar, gum, wax, glycerine, and cotton-wool.
18. Carbolic and boracic acids, creasote, pitch and tar.
19. Camphor, turpentine, resins and volatile oils.
20. Arsenic and antimony compounds.
21. Sulphur and charcoal.
22. The alums
23. Iodine and iodides.
24. Some miscellaneous drugs: prussic acid, santonin, kamala, &c.
25. Indian drugs: bis-coprah, nim or margosa, papaya, bael, tamarind, palas papra, dikamali, ajwan, chiretta, mudar, jingili, colocynth, tobacco, dhatura, bhang, butch, pepper, long, gamboge, gurjan balsam, bamboo, wood-apple kuskuk, opium, and assafetida.

F. FERNANDES, G.B.V.C.,

Lecturer on Materia Medica in the Bengal Veterinary Institution.

APPENDIX J.

TABLE M.

Provincial Report.

Showing districts where Outbreaks of Cattle-disease occurred during 1894-95.

Province.	District.	Rinderpest.			Anthrax.			Foot-and-Mouth-Disease.			Pleuro-Pneumonia.			Carbon Symptomatique.			Other Diseases.			Total.		
		Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.	Number attacked.	Number died.	Percentage of death.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Bengal ...	Mymensingh	62	48	79	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	62	48	79
	Chittagong ...	1,606	1,549	96	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	1,606	1,549	96
	Chittagong Hill Tracts	...	..	..	...	...	...	1,000	Not known		...	...	...	...	...	...	...	...	...	1,000	Not known.	
	Balasore	422	281	66	...	...	...	328	260	79	...	...	...	...	...	...	...	...	...	750	541	72
	Rangpur	62	48	79	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	62	48	79
	Jessore	130	60	46	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	130	60	46
	Darjeeling	No statistics received.																				
	Murshidabad																					
	24-Parganas																					
	Rajshahi																					

APPENDIX K.

NOTICE.

Cattle-Disease.

Korait attacks the mouth and feet of cattle, and is contagious.

Symptoms:

It is recognizable by—

(1) Lameness in one leg or more, caused by sores which may be seen between the divisions of the feet, and
(2) Ulceration of the gum and tongue.

The best remedy is borax (shohaga.)

Treatment:

Borax powder should be applied to all the sores, whether in the mouth or between the feet, and the animal should be kept in as dry a place as possible.
The borax powder should be rubbed in sufficiently to cover each sore.

Supply:

Borax powder is obtainable in packets containing 2 ounces (5 tollahs), price 1 anna each, at the following places:—

Darjeeling	... }	The Municipal Office. All police-stations.
Kurseong	... }	
Siliguri	...	The Deputy Magistrate's office. All police-stations.
Kalimpong	...	The Manager's office. All police-stations.

(Sd.) R. T. GREER,
Deputy Commissioner, Darjeeling.

APPENDIX L.

TABLE J.

Provincial Report.

Services and Produce of each class of District Donkey Stallion during 1894-95.

Class of Donkey Stallions.	Stallions on register.	Donkey Stallion actually employed at Stud.				Number of Mares covered.				Average of Mares covered per Stallion employed at Stud.				Result of previous year's coverings.						Average Result of previous year's coverings per Stallion employed at Stud.					
		For mule breeding.		For donkey breeding.		Pony mares.		Donkey mares.		Pony mares.		Donkey mares.		Pony mares.			Donkey mares.			Pony mares.			Donkey mares.		
		Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Number of mule produce.	Number not held.	Number not known.	Number of donkey produce.	Number not held.	Number not known.	Average of mule produce.	Average of not held.	Average of not known.	Average of donkey produce.	Average of not held.	Average of not known.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Italian	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Persian	1	1	...	...	...	18	...	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	1	1	...	...	...	18	...	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

APPENDIX M.

TABLE K.

Provincial Report.

Cost of Feed Keep, Attendants, &c., of District Donkey Stallions in 1894-95.

Province.	District.	Number of donkey stallions.	Total annual cost.	Average per donkey stallion.	Remarks.
1	2	3	4	5	6
Sikkim (Bengal) ...	Gantok ...	1	Rs. *231	Rs. *231	*The amount being the charges from 1st July 1894 to 28th February 1895. The bill for March 1895 has not yet been received in this office.

APPENDIX N.

TABLE P.

Statement showing Tours of Superintendent, Civil Veterinary Department, Bengal.

Rank, Name, and Designation of Officer.	Districts visited.	Fairs and shows attended.	Number of Miles travelled—			Total.	Remarks.
			By road.	By rail.	By boat or steamer.		
1	2	3	4	5	6	7	8
Veterinary Captain William Donald Gunn, Superintendent, Civil Veterinary Department, Bengal.	The 24-Parganas. Shahabad Bhagalpur Patna Darbhanga Darjeeling Jessore Midnapore Jalpaiguri Purnea Dinajpur Saran Berhampore	Sonepur ... Roghunathpur. Berhampore Kalimpong	Miles. 596	Miles. 10,981	Miles. 154	Miles. 11,721	

APPENDIX O.

Revised statement showing the charges of the Civil Veterinary Department paid from Provincial Revenues in Bengal and adjusted in the Civil Veterinary Department during the official year 1894-95.

Heads.	Superintendent, Bengal.	Remarks.
	Rs a. p.	
I.—Prizes at horse fairs and shows.	.....	
II.—Establishment, officers ...	4,934 4 4	Includes Rs. 1,934-4-4 on account of pay of lecturers.
Ditto, subordinates.	3,183 8 5	
Stipend to students ...	850 0 0	
III.—Travelling allowance, officers.	7 8 0	
Travelling allowance, subordinates.	518 13 2	
IV.—Contingencies ...	3,200 6 0	
V.—Purchase of stallions ...	.....	
VI.—Stable feed and keep ...	1,129 9 6	
VII.—Road expenses ...	.....	
Total ...	13,824 1 5	

No. C-0428, dated the Treasury, Calcutta, the 9th July 1895.

Memo. by—The Accountant-General, Bengal.

Forwarded to the Superintendent, Civil Veterinary Department, Bengal, with reference to his letter No. 371 $\frac{V.D.}{95}$, dated 14th June 1895, with the remark that Rs. 1,342, representing cost of laying down water-pipes in the Bengal Veterinary Institution, have not been included in the charges shown in this statement, as the expenditure is adjusted in the accounts of the Public Works Department.

F. Da C. & others.—Reg. No. 1086J—525—15-7-95.